TEJUS
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No. TC / BBMP / YNK-PMC / 472 / 20-21 Date:

To
The Executive Engineer
Yelahanka Division
Bruhat Bangalore Mahanagara Palike
Bangalore – 560 092

Dear Sir

Sub: Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yelahanka divison. (Package - 04)

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the **First and Final** bill submitted by **B.B.UMESHA (M/S SMLP Asphalts) H No.385/1, near Anjaneya Temple, Bettahalasur Village & post, Bangalore - 562157** towards the above said work and arrived at an amount of Rs ~~62393766.79~~ 62393765.51 **(Rupees Six Crore Twenty Three Lakh Ninety ~~Three~~ Two Thousand ~~Seven Hundred Sixty Six and Paise Seventy Nine~~ Five Hundred Sixty Five Only)** the work has been completed satisfactorily.

This is for your kind information.

Thank you and assuring you the best of our Services at all the times

For Tejus Consultants
(Nischal M)

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬ.ಬ.ಮ.ಪ. ಬೆಂಗಳೂರು-106

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Project	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**17-06-2020**
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	**1**	**2**
Chainage	@850	@1030
Wt. of wet material from hole (Ww) gms.	5978	5966
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10594	10596
Wt. of sand in hole+ cone (w3) gms.	4406	4404
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3326	3324
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100yb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.32	98.18
% compaction required	98%	98%

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ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
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Consultant's Representative

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (M sand)	Proposed Use	PCC
Location/Source	At Laboratory	Date of Sampling	17.06.2020
Period of Soaking	24 hours	Date of Testing	18.06.2020

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	662	638	670	
B	Weight of oven - dry sample gm.	654	630	662	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1692	1676	1696	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.669	2.658	2.659	2.662
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.223	1.270	1.208	1.234

Note:

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TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	At Site/Plant	**Date of Sampling**	18.06.2020
		Date of Testing	18.06.2020

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	84	84	2.80	97.20	95-100
20.00mm	1400	1484	49.47	50.53	30-70
10.00mm	984	2468	82.27	17.73	10-35
4.75mm	460	2928	97.60	2.40	0-5
Pan	72	3000	100.00	0.00	

Remarks : ✓ Satisfactory / Not Satisfactory

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No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079. ✆ +91 80 23287532, tejusconsultants@gmail.com

Test Report on Cement

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04 Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Sample ID	Cement
Date of Sample Tested	18.06.2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	110 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	486 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	3mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	22-06-2020
Type of Mix	:	BC
Sample I/D	:	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	938	914
2. Weight of Mixture after extraction, g	889	866
3. Weight of Bitumen	49	48
4. Weight of filter paper before extraction, g	2.00	2.15
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	2.10	1.85
7. Weight of Bitumen & fines	51.10	49.85
8. Bitumen content in %	5.45	5.45
9. Average Bitumen content in %	5.45	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	At site	Date of Sampling:	22-06-2020
		Date of testing:	22-06-2020
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	889.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	92	92.0	10.35	89.65	79 - 100
9.50	128	220.0	24.75	75.25	71 - 95
4.75	88	308.0	34.65	65.35	53 - 71
2.360	126	434.0	48.82	51.18	42 - 58
1.180	120	554.0	62.32	37.68	34 - 48
0.600	74	628.0	70.64	29.36	26 - 38
0.300	62	690.0	77.62	22.38	18 - 28
0.150	54	744.0	83.69	16.31	12 - 20
0.075	95	839.0	94.38	5.62	4 - 10
Pan	50.0	889.0			
Total	889.0				

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DETERMINATION OF RATE OF SPREAD TACK COAT	
Name of Work :	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka division. (Package 04)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing :	22.06.2020
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.768	0.745	0.754
Final weight of plate after application of tack Coat (c)	Kg	0.791	0.768	0.777
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.253	0.250
Average	Kg/sq.m	0.251		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	BC	**Date of Sampling**	**22-06-2020**
Sample Location	At plant	**Date of Testing**	**22-06-2020**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	388.00	396.00	376.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	294.00	298.00	284.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	94.00	98.00	92.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.23	24.75	24.47	
5	Average Aggregate impact value	(%)	24.48			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	23-06-2020
Type of Mix	:	BC
Sample I/D	:	BC2

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	956	944
2. Weight of Mixture after extraction, g	906	894
3. Weight of Bitumen	50	50
4. Weight of filter paper before extraction, g	2.00	2.15
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	2.10	1.85
7. Weight of Bitumen & fines	52.10	51.85
8. Bitumen content in %	5.45	5.49
9. Average Bitumen content in %	5.47	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	At site	Date of Sampling:	23-06-2020
		Date of testing:	23-06-2020
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	906.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	87	87.0	9.60	90.40	79 - 100
9.50	118	205.0	22.63	77.37	71 - 95
4.75	92	297.0	32.78	67.22	53 - 71
2.360	156	453.0	50.00	50.00	42 - 58
1.180	120	573.0	63.25	36.75	34 - 48
0.600	76	649.0	71.63	28.37	26 - 38
0.300	72	721.0	79.58	20.42	18 - 28
0.150	40	761.0	84.00	16.00	12 - 20
0.075	69	830.0	91.61	8.39	4 - 10
Pan	76.0	906.0			
Total	906.0				

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DETERMINATION OF RATE OF SPREAD TACK COAT	
Name of Work :	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka division (Package 04)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing :	23.06.2020
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.752	0.736	0.764
Final weight of plate after application of tack Coat (c)	Kg	0.775	0.759	0.787
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.254	0.256	0.252
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	0.250 Kg/sq.m		

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (M sand)	Proposed Use	concrete
Location/Source	At Laboratory	Date of Sampling	22-06-2020
Period of Soaking	24 hours	Date of Testing	23-06-2020

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	652	670	656	
B	Weight of oven - dry sample gm.	645	662	647	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1684	1696	1687	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.654	2.659	2.652	2.655
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.085	1.208	1.391	1.228

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)				
Consultants	TEJUS CONSULTANTS				
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**	CONCRETE	
Sample Location	At Site/Plant		**Date of Sampling**	23-06-2020	
			Date of Testing	23-06-2020	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	528	528	5.28	94.72	90-100
10.0	4694	5222	52.22	47.78	40-85
4.75	4330	9552	95.52	4.48	0-10
Pan	448	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX		
Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	30-06-2020
Type of Mix	:	BC
Sample I/D	:	BC2

DETERMINATION OF BITUMEN CONTENT		
Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	937	965
2. Weight of Mixture after extraction, g	888	914
3. Weight of Bitumen	49	51
4. Weight of filter paper before extraction, g	2.00	2.15
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	2.10	1.85
7. Weight of Bitumen & fines	51.10	52.85
8. Bitumen content in %	5.45	5.48
9. Average Bitumen content in %	5.47	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-18,Grading-2)

Sample Location:	At site	Date of Sampling:	30-06-2020
		Date of testing:	30-06-2020
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	888.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	94	94.0	10.59	89.41	79 - 100
9.50	123	217.0	24.44	75.56	71 - 95
4.75	88	305.0	34.35	65.65	53 - 71
2.360	156	461.0	51.91	48.09	42 - 58
1.180	104	565.0	63.63	36.37	34 - 48
0.600	78	643.0	72.41	27.59	26 - 38
0.300	68	711.0	80.07	19.93	18 - 28
0.150	46	757.0	85.25	14.75	12 - 20
0.075	69	826.0	93.02	6.98	4 - 10
Pan	62.0	888.0			
Total	888.0				

Consultant's Representative

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing :	30-06-2020
Type of Mix :	BC
Sample I/D :	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	848	840
2. Weight of Mixture after extraction, g	803	796
3. Weight of Bitumen	45	44
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.40	1.70
7. Weight of Bitumen & fines	46.40	45.70
8. Bitumen content in %	5.47	5.44
9. Average Bitumen content in %	5.46	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-18,Grading-2)

Sample Location:	At site	Date of Sampling:	30-06-2020
Type of material & Purpose:	BC	Date of testing:	30-06-2020
		Oven Dry Wt.(gms):	803.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	83	83.0	10.34	89.66	79 - 100
9.50	115	198.0	24.66	75.34	71 - 95
4.75	108	306.0	38.11	61.89	53 - 71
2.360	124	430.0	53.55	46.45	42 - 58
1.180	76	506.0	63.01	36.99	34 - 48
0.600	68	574.0	71.48	28.52	26 - 38
0.300	68	642.0	79.95	20.05	18 - 28
0.150	52	694.0	86.43	13.57	12 - 20
0.075	40	734.0	91.41	8.59	4 - 10
Pan	69.0				
Total	803.0				

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Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	30-06-2020
Type of Mix	:	BC
Sample I/D	:	BC1

GRADATION FOR BC

(As per MORT&H 500-18,Grading-2)

Sample Location:	At plant	Date of Sampling:	29-06-2020
		Date of testing:	30-06-2020
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	118	118.0	9.83	90.17	79 - 100
9.50	84	202.0	16.83	83.17	71 - 95
4.75	212	414.0	34.50	65.50	53 - 71
2.360	142	556.0	46.33	53.67	42 - 58
1.180	138	694.0	57.83	42.17	34 - 48
0.600	128	822.0	68.50	31.50	26 - 38
0.300	102	924.0	77.00	23.00	18 - 28
0.150	94	1018.0	84.83	15.17	12 - 20
0.075	112	1130.0	94.17	5.83	4 - 10
Pan	70.0	1200.0			
Total	1200.0				

Consultant's Representative

TEJUS CONSULTANTS

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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka division. (Packages 04)			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)			
Date of Testing :	30.06.2020			
Type of Mix :	Tack coat			
Sample I/D :	1			

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.765	0.748	0.752
Final weight of plate after application of tack Coat (c)	Kg	0.788	0.771	0.775
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.253	0.250
Average	Kg/sq.m	0.251		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
No.of Sample Tested	:	3
Date of Testing	:	01-07-2020
Technical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{30} 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.468	2648.34	1.80	0.960	39.52	20.13	21.74	20.87	26.09
2	50.00	90.00	0.464	2625.70	1.80	0.960	39.64	20.19	21.80	20.93	26.16
3	50.00	90.00	0.470	2659.66	1.80	0.960	39.92	20.33	21.96	21.08	26.35

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing :	06-07-2020
Type of Mix :	BC
Sample I/D :	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	868	796
2. Weight of Mixture after extraction, g	822	754
3. Weight of Bitumen	46	42
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.40	1.70
7. Weight of Bitumen & fines	47.40	43.70
8. Bitumen content in %	5.46	5.49
9. Average Bitumen content in %	5.48	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	At site	Date of Sampling:	06-07-2020
Type of material & Purpose:	BC	Date of testing:	06-07-2020
		Oven Dry Wt.(gms):	822.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	95	95.0	11.56	88.44	79 - 100
9.50	108	203.0	24.70	75.30	71 - 95
4.75	116	319.0	38.81	61.19	53 - 71
2.360	105	424.0	51.58	48.42	42 - 58
1.180	82	506.0	61.56	38.44	34 - 48
0.600	60	566.0	68.86	31.14	26 - 38
0.300	78	644.0	78.35	21.65	18 - 28
0.150	51	695.0	84.55	15.45	12 - 20
0.075	60	755.0	91.85	8.15	4 - 10
Pan	67.0				
Total	822.0				

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Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	06-07-2020
Type of Mix	:	BC
Sample I/D	:	BC2

GRADATION FOR BC

(As per MORT&H 500-18,Grading-2)

Sample Location:	At plant	Date of Sampling:	05-07-2020
		Date of testing:	06-07-2020
Type of material & Purpose:	BC	Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19	0	0	0.00	100.00	100.00
13.20	88	88.0	7.33	92.67	79 - 100
9.50	118	206.0	17.17	82.83	71 - 95
4.75	230	436.0	36.33	63.67	53 - 71
2.360	184	620.0	51.67	48.33	42 - 58
1.180	102	722.0	60.17	39.83	34 - 48
0.600	112	834.0	69.50	30.50	26 - 38
0.300	96	930.0	77.50	22.50	18 - 28
0.150	64	994.0	82.83	17.17	12 - 20
0.075	114	1108.0	92.33	7.67	4 - 10
Pan	92.0	1200.0			
Total	1200.0				

Consultant's Representative

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka division. (Package 04)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing :	06.07.2020
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.752	0.746	0.792
Final weight of plate after application of tack Coat (c)	Kg	0.775	0.769	0.815
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.254	0.256	0.252
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	0.250 Kg/sq.m		

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
No.of Sample Tested	:	3
Date of Testing	:	08-07-2020
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{20} 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.468	2648.34	1.80	0.960	39.57	20.15	21.77	20.89	26.12
2	50.00	90.00	0.472	2670.97	1.80	0.960	39.62	20.18	21.79	20.92	26.15
3	50.00	90.00	0.464	2625.70	1.80	0.960	39.82	20.28	21.90	21.03	26.28

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Test Report on Cement

Project	Improvements to Roads, drains and othar developmental works in ward No 03 & 04 Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Sample ID	Cement
Date of Sample Tested	13.07.2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	96 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	388 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Granta of Yalahanka divison. (Package - 04)
Consultants	Tejus Consultants, Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	**Proposed Use**	concrete
Sample Location	At Site/Plant	**Date of Sampling**	13.07.2020
		Date of Testing	13.07.2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	214	214	7.13	92.87	90 - 100
2.36 mm	312	526	17.53	82.47	75 - 100
1.18 mm	426	952	31.73	68.27	55 - 90
0.600 mm	492	1444	48.13	51.87	35 -59
0.300 mm	712	2156	71.87	28.13	8-30
0.150 mm	630	2786	92.87	7.13	0 - 10
Pan	214	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete
Sample Location	Plant/At site	**Date of Sampling**	13.07.2020
		Date of Testing	13.07.2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	260	260	2.60	97.40	95 - 100
10.00 mm	4836	5096	50.96	49.04	25 - 55
4.75 mm	4212	9308	93.08	6.92	0 - 10
Pan	692	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads, drains and othar developmental works in ward No.03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)				
Consultants	TEJUS CONSULTANTS				
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	12.5 mm down size		**Proposed Use**	CONCRETE	
Sample Location	At Site/Plant		**Date of Sampling**	13.07.2020	
			Date of Testing	13.07.2020	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	532	532	5.32	94.68	90-100
10.0	4672	5204	52.04	47.96	40-85
4.75	4442	9646	96.46	3.54	0-10
Pan	354	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13.07.2020	10.08.2020	28 days	8.122	22500	698	31.02	31.23
2	13.07.2020	10.08.2020	28 days	8.136	22500	706	31.38	
3	13.07.2020	10.08.2020	28 days	8.146	22500	704	31.29	

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Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	14-07-2020
Type of Mix	:	BC
Sample I/D	:	BC2

GRADATION FOR BC

(As per MORT&H 500-18,Grading-2)

Sample Location:	At plant		Date of Sampling:	13-07-2020
			Date of testing:	14-07-2020
Type of material & Purpose:	BC		Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19	0	0	0.00	100.00	100.00
13.20	86	86.0	7.17	92.83	79 - 100
9.50	122	208.0	17.33	82.67	71 - 95
4.75	242	450.0	37.50	62.50	53 - 71
2.360	188	638.0	53.17	46.83	42 - 58
1.180	102	740.0	61.67	38.33	34 - 48
0.600	118	858.0	71.50	28.50	26 - 38
0.300	96	954.0	79.50	20.50	18 - 28
0.150	64	1018.0	84.83	15.17	12 - 20
0.075	113	1131.0	94.25	5.75	4 - 10
Pan	69.0	1200.0			
Total	1200.0				

Consultant's Representative

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka division. (Package 04)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing :	14.07.2020
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.792	0.784	0.773
Final weight of plate after application of tack Coat (c)	Kg	0.815	0.807	0.796
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.254	0.253	0.251
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	Plant/At site		**Date of Sampling**	14.07.2020	
			Date of Testing	14.07.2020	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	100
20.00 mm	266	266	2.66	97.34	95 - 100
10.00 mm	4840	5106	51.06	48.94	25 - 55
4.75 mm	4226	9332	93.32	6.68	0 - 10
Pan	668	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads, drains and othar developmental works in ward.No.03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)				
Consultants	TEJUS CONSULTANTS				
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	12.5 mm down size		**Proposed Use**	CONCRETE	
Sample Location	At Site/Plant		**Date of Sampling**	14.07.2020	
			Date of Testing	14.07.2020	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	520	520	5.20	94.80	90-100
10.0	4620	5140	51.40	48.60	40-85
4.75	4436	9576	95.76	4.24	0-10
Pan	424	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

TEJUS CONSULTANTS

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Sand/M sand	Proposed Use	Concrete
Location/Source	At Plant/site	Date of Sampling	14-07-2020
Period of Soaking	24 hours	Date of Testing	15-07-2020

Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.		658	652	648	
B	Weight of oven - dry sample gm.		650	644	640	
C	Weight of Pycnometer Filled with water gm		1275	1275	1275	
D	Weight of Pycnometer + sample + water gm		1688	1684	1682	
E	Bulk specific gravity	B	2.653	2.650	2.656	2.653
		(C+A-D)				
G	Absorption (%)	(A-B)*100	1.231	1.242	1.250	1.241
		B				

Remarks : ✓ Satisfactory / Not Satisfactory

TEJUS CONSULTANTS

Consultant's Representative

TEJUS
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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	15.07.2020	22.07.2020	7 days	8.132	22500	468	20.80	21.14
2	15.07.2020	22.07.2020	7 days	8.146	22500	475	21.11	
3	15.07.2020	22.07.2020	7 days	8.154	22500	484	21.51	

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Project	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	07-08-2020
Sample Location	At plant	**Date of Testing**	07-08-2020

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	350.00	356.00	336.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	268.00	272.00	258.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	82.00	84.00	78.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.43	23.60	23.21	
5	Average Aggregate impact value	(%)	23.41			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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CONSULTANTS

Name of Work	:	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	09-08-2020
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	At plant	Date of Sampling:	08-08-2020
		Date of testing:	09-08-2020
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	386	386	3.86	96.14	95-100
22.4	1796	2182	21.82	78.18	60-80
11.2	2352	4534	45.34	54.66	40-60
4.75	2020.0	6554	65.54	34.46	25-40
2.36	1400.0	7954	79.54	20.46	15-30
0.6	740.0	8694	86.94	13.06	8.0-22.0
0.075	892.0	9586	95.86	4.14	0-8
Pan	414.0	10000			
Total	10000.0				

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Consultant's Representative

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Name of Work	:	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing	:	11-08-2020
Type of Mix	:	DBM
Sample I/D	:	DBM-1

GRADATION FOR DBM

(As per MORT&H 500-10,Grading-2)

Sample Location:	At plant	Date of Sampling:	10-08-2020
		Date of testing:	11-08-2020
Type of material & Purpose:	DBM	Oven Dry Wt.(gms):	1500.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0	0	0.00	100.00	100.00
26.50	92	92	6.13	93.87	90-100
19.00	116	208	13.87	86.13	71-95
13.20	232	440	29.33	70.67	56-80
4.750	312	752	50.13	49.87	38-54
2.360	188	940	62.67	37.33	28-42
0.300	274	1214	80.93	19.07	7-21
0.075	196	1410	94.00	6.00	2-8
Pan	90	1500			
Total	1500.0				

Consultant's Representative

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Consultants	Tejus Consultants, Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

SIEVE ANALYSIS

Total Weight:	3000 gms			
Type of Material	Fine aggregate (M sand)	Proposed Use	PCC	
Sample Location	At Site/Plant	Date of Sampling	11.08.2020	
		Date of Testing	11.08.2020	

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	212	212	7.07	92.93	90 - 100
2.36 mm	316	528	17.60	82.40	75 - 100
1.18 mm	420	948	31.60	68.40	55 - 90
0.600 mm	486	1434	47.80	52.20	35 -59
0.300 mm	750	2184	72.80	27.20	8-30
0.150 mm	620	2804	93.47	6.53	0 - 10
Pan	196	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (M sand)	Proposed Use	PCC
Location/Source	At Laboratory	Date of Sampling	10 08 2020
Period of Soaking	24 hours	Date of Testing	11 08 2020

Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.		662	640	660	
B	Weight of oven - dry sample gm		653	632	652	
C	Weight of Pycnometer Filled with water gm		1275	1275	1275	
D	Weight of Pycnometer + sample + water gm		1692	1678	1690	
E	Bulk specific gravity	$\frac{B}{(C+A-D)}$	2.665	2.667	2.661	2.664
G	Absorption (%)	$\frac{(A-B)*100}{B}$	1.378	1.266	1.227	1.290

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TEST REPORT

TEJUS CONSULTANTS

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	At Site/Plant	**Date of Sampling**	12.08.2020
		Date of Testing	12.08.2020

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	83	83	2.77	97.23	95-100
20.00mm	1408	1491	49.70	50.30	30-70
10.00mm	970	2461	82.03	17.97	10-35
4.75mm	460	2921	97.37	2.63	0-5
Pan	79	3000	100.00	0.00	

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Cement

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Sample ID	Cement
Date of Sample Tested	12.08.2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	102 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	398 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chateler method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	26.00%	25 % to 35

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)				
Consultants	TEJUS CONSULTANTS				
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**	CONCRETE	
Sample Location	At Site/Plant		**Date of Sampling**	12-08-2020	
			Date of Testing	12-08-2020	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	524	524	5.24	94.76	90-100
10.0	4690	5214	52.14	47.86	40-85
4.75	4320	9534	95.34	4.66	0-10
Pan	466	10000			

Remarks : Satisfactory / Not Satisfactory

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Test Report on Cement

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Sample ID	Cement
Date of Sample Tested	14.08.2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	105 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	489 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	7 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

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TEST REPORT

TEJUS CONSULTANTS

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	Plant/At site		**Date of Sampling**	14-08-2020	
			Date of Testing	14-08-2020	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	100
20.00 mm	268	268	2.68	97.32	95 - 100
10.00 mm	4830	5098	50.98	49.02	25 - 55
4.75 mm	4226	9324	93.24	6.76	0 - 10
Pan	676	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEJUS
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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	14-08-2020	21-08-2020	7 days	8.136	22500	301	13.38	13.54
2	14-08-2020	21-08-2020	7 days	8.142	22500	304	13.51	
3	14-08-2020	21-08-2020	7 days	8.148	22500	309	13.73	

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TEST REPORT

TEJUS CONSULTANTS

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 01. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	Proposed Use	Concrete	
Sample Location	Plant/At site	Date of Sampling	17-08-2020	
		Date of Testing	17-08-2020	

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	264	264	2.64	97.36	95 - 100
10.00 mm	4830	5094	50.94	49.06	25 - 55
4.75 mm	4219	9313	93.13	6.87	0 - 10
Pan	687	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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PRECAST SLAB (CORE) TEST REPORT		
Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04 Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison (Package - 04)
No.of Sample Tested	:	3
Date of Testing	:	19-08-2020
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24 1983
Grade of Concrete	:	M15 , 250mm Thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	100.00	180.00	3.448	2438.96	1.80	0.960	158.96	20.24	21.86	20.98	26.23
2	100.00	180.00	3.464	2450.28	1.80	0.960	159.06	20.25	21.87	21.00	26.25
3	100.00	180.00	3.562	2519.60	1.80	0.960	159.24	20.28	21.90	21.02	26.28

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TEJUS

Test Report on Cement

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 01. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Sample ID	Cement
Date of Sample Tested	21.08.2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	105 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	498 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

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TEJUS

TEST REPORT

lients	Bruhat Bangalore Mahanagara Palike
roject	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
onsultants	Tejus Consultants, Bangalore
ontractor	Sri. B B Umesh (M/s SMLP Asphalts)

SIEVE ANALYSIS

otal Weight:	3000 gms			
ype of laterial	Fine aggregate M sand)		Proposed Use	concrete
ample location	At Site/Plant		Date of Sampling	21-08-2020
			Date of Testing	21-08-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
9.00 mm	0	0	0	100.00	100
75 mm	205	205	6.83	93.17	90 - 100
.36 mm	300	505	16.83	83.17	75 - 100
18 mm	428	933	31.10	68.90	55 - 90
600 mm	487	1420	47.33	52.67	35 -59
.300 mm	712	2132	71.07	28.93	8-30
150 mm	640	2772	92.40	7.60	0 - 10
an	228	3000			-

emarks : ✓ Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Authorised Signatory

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PAVER BLOCK(COBBLE STONE) TEST REPORT	
Client	Bruhat Bangalore Mahanagara Palike
Contractor:	Name of Agency: Sri. B B Umesh (M/s SMLP Asphalts)
Name of Work:	Name of Work: :Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
No.of Sample Tested:	3
Date of Testing:	22-08-2020
Techinical Reference:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.

Sl. No.	Details	FLEXURAL STRENGTH, fcr in N/mm^2	Charecteristic Copressive strength fck in N/mm^2	Average Charecteristic Copressive strength fck in N/mm^2
1	Paver Block	3.77	29.00	28.40
2	Paver Block	3.70	28.00	
3	Paver Block	3.72	28.20	

Results: Copressive strength of Paver Block(N/mm^2)=	28.40

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TEST REPORT

ients	Bruhat Bangalore Mahanagara Palike
oject	Improvements to Roads, drains and othar developmental works in ward No-03 & 04 Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
onsultants	Tejus Consultants, Bangalore
ontractor	Sri. B B Umesh (M/s SMLP Asphalts)

SIEVE ANALYSIS

otal Weight:	3000 gms			
ype of aterial	Fine aggregate M sand)	Proposed Use	concrete	
ample ocation	At Site/Plant	Date of Sampling	25/08/2020	
		Date of Testing	25/08/2020	

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
0.00 mm	0	0	0	100.00	100
75 mm	202	202	6.73	93.27	90 - 100
36 mm	298	500	16.67	83.33	75 - 100
18 mm	422	922	30.73	69.27	55 - 90
600 mm	487	1409	46.97	53.03	35 -59
300 mm	728	2137	71.23	28.77	8-30
150 mm	640	2777	92.57	7.43	0 - 10
an	223	3000			-

emarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)				
Consultants	TEJUS CONSULTANTS				
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**	CONCRETE	
Sample Location	At Site/Plant		**Date of Sampling**	25-08-2020	
			Date of Testing	25-08-2020	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	528	528	5.28	94.72	90-100
10.0	4694	5222	52.22	47.78	40-85
4.75	4332	9554	95.54	4.46	0-10
Pan	446	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

lients	Bruhat Bangalore Mahanagara Palike
roject	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
onsultants	Tejus Consultants, Bangalore
ontractor	Sri. B B Umesh (M/s SMLP Asphalts)

SIEVE ANALYSIS

otal Weight:	3000 gms		
ype of [aterial	Fine aggregate M sand)	Proposed Use	concrete
ample ocation	At Site/Plant	Date of Sampling	27-08-2020
		Date of Testing	27-08-2020

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
0.00 mm	0	0	0	100 00	100
.75 mm	204	204	6 80	93 20	90 - 100
.36 mm	300	504	16.80	83 20	75 - 100
18 mm	422	926	30.87	69.13	55 - 90
600 mm	485	1411	47.03	52 97	35 -59
300 mm	720	2131	71 03	28.97	8-30
150 mm	640	2771	92 37	7.63	0 - 10
an	229	3000			-

emarks : Satisfactory / Not Satisfactory

ote:

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TEST REPORT

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Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	Proposed Use	Concrete	
Sample Location	Plant/At site	Date of Sampling	27-08-2020	
		Date of Testing	27-08-2020	

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	278	278	2.78	97.22	95 - 100
10.00 mm	4830	5108	51.08	48.92	25 - 55
4.75 mm	4222	9330	93.30	6.70	0 - 10
Pan	670	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-106

TEJUS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-08-2020	03-08-2020	7 days	8.136	22500	305	13.56	13.70
2	27-08-2020	03-08-2020	7 days	8.142	22500	309	13.73	
3	27-08-2020	03-08-2020	7 days	8.148	22500	311	13.82	

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ಬ.ಬ.ಮ.ಪ. ಬೆಂಗಳೂರು-106

DETERMINATION OF RATE OF SPREAD TACK COAT	
Name of Work :	Improvements to Roads, drains and other developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka division. (Package-04)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Sri. B B Umesh (M/s SMLP Asphalts)
Date of Testing :	28.08.2020
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.770	0.746	0.755
Final weight of plate after application of tack Coat (c)	Kg	0.793	0.769	0.778
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.254	0.253	0.251
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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KERB STONE (CORE) TEST REPORT

Name of Work	:	Improvements to Roads, drains and othar developmental works in ward No-03 & 04. Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	:	Bruhat Bengaluru Mahanagara Palike
Contractor	:	Sri. B B Umesh (M/s SMLP Asphalts)
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
No.of Sample Tested	:	3
Date of Testing	:	04-09-2020
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{15}

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength
1	50.00	85.00	0.386	2312.80	1.70	0.960	29.59	15.07	16.28	15.62	19.53
2	50.00	85.00	0.382	2288.84	1.70	0.960	29.60	15.08	16.28	15.63	19.54
3	50.00	85.00	0.386	2312.80	1.70	0.960	29.58	15.06	16.27	15.62	19.52

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Consultant's Representative

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ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
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TEJUS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads, drains and othar developmental works in ward No-03 & 04 Under road development head in Chief Minister Nava Nagarothan Grants of Yalahanka divison. (Package - 04)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Sri. B B Umesh (M/s SMLP Asphalts)
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-08-2020	24-09-2020	28days	8.136	22500	471	20.93	20.83
2	27-08-2020	24-09-2020	28days	8.142	22500	469	20.84	
3	27-08-2020	24-09-2020	28days	8.148	22500	466	20.71	

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